DOCUMENT RESUME

ED 057 180 VT 012 906

AUTHOR	Butler, Roy L.; York, Edwin G.
TITLE	What School Administrators Should Know About Cooperative Vocational Education.
INSTITUTION	Ohio State Univ., Columbus. Center for Vocational and Technical Education.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C.
REPORT NO	Inf-Ser-37
PUB DATE	May 71
NOTE	18p.
AVAILABLE FROM	Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (Stock No. 1780-0772, $.25)
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Administrator Guides; *Administrator Role; Advisory Committees; *Cooperative Education; Educational Equipment; Financial Needs; Financial Support; Guidance Services; Instructional Staff; *Program Administration; Program Development; Program Evaluation; Program Planning; Supervision; *Vocational Education

ABSTRACT

This publication is designed to serve school administrators interested in reviewing the key administrative concepts relative to cooperative vocational education. The document identifies the various types of cooperative programs, the advantages of cooperative education, and the major limiting factors related to the administration of these programs. Special attention is given to administrative matters such as (1) funding, (2) staffing and supervision, (3) advisory committees, (4) equipment and facilities, and (5) program evaluation. The compact nature of this review and its organization into guideline format should be of further assistance to the school administrator in planning and developing cooperative education programs. (Author/JS)

ED057180

Information Series No. 37

VT 012 906

WHAT SCHOOL ADMINISTRATORS SHOULD KNOW ABOUT COOPERATIVE VOCATIONAL EDUCATION

VT012 906

ERIC Clearinghouse on Vocational and Technical Education

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

preface

This publication is designed to serve school administrators interested in reviewing the key administrative concepts relative to cooperative vocational education. The compact nature of the review and its organization into guideline format should provide a ready reference for the practitioner seeking to develop and improve occupational experience programs in his school and community. Much has been written on cooperative vocational education. However, the authors have been selective by citing references believed to be especially useful to administrators.

A basic reference on this topic is the *Review and Synthesis of Research on Cooperative Vocational Education* by Harold R. Wallace. This reference and related publications on the same topic for state supervisors and teacher educators, and for teacher coordinators are available from The Center.

The profession is indebted to Edwin York and Roy Butler for their scholarship in the preparation of this report. Recognition is also due Harold R. Wallace, Utah State University; C. Robert Baker, Superintendent of Schools, Findlay, Ohio; and Edward T. Ferguson, Research and Development Specialist at The Center, for their critical review of the manuscript prior to its final revision and publication. J. David McCracken, Information Specialist at The Center, coordinated the publication's development.

Robert E. Taylor
Director
The Center for Vocational and Technical Education
ERIC Clearinghouse on Vocational and Technical Education

The material in this publication was prepared pursuant to a contract with the Office of Education, U.S. Department of Health, Education and Welfare. Contractors undertaking such projects under government sponsorship are encouraged to express freely their judgment in professional and technical matters. Points of view or opinions do not, therefore, necessarily represent official Office of Education position or policy.

Information Series No. 37
VT 012 906

What School Administrators Should Know About Cooperative Vocational Education

Roy L. Butler, *Information Specialist*
ERIC Clearinghouse on Vocational and Technical Education
The Ohio State University
Columbus, Ohio

Edwin G. York, *Coordinator*
Occupational Research and Development Resource Center
Division of Vocational Education
New Jersey State Department of Education
Trenton, New Jersey

ERIC Clearinghouse on Vocational and Technical Education

The Center for Vocational and Technical Education
The Ohio State University, 1900 Kenny Road, Columbus, Ohio 43210
August, 1971

contents

Definition 1
Types of Programs 1
Advantages 1
Limiting Factors 3
Administration 4
Funding 4
Determining Type 5
Staffing, Supervision 5
Advisory Committee 8
Counseling, Guidance 9
Equipment, Facilities 9
Evaluation 9
Bibliography 11

introduction

Employment must be an integral part of education because it helps students learn to become participating and productive members of society. Cooperative vocational education is a proven means for blending employment and education. Through such programs, existing educational efforts become more relevant to the needs of students and an excellent opportunity is provided for the student to make the transition into the world of work. Equally as important, cooperative vocational education is economically feasible for even the smallest school system.

To gain a basic understanding of cooperative vocational education, the school administrator will want to be familiar with its definition, the various types of programs, and their advantages and major limiting factors.

The first part of this paper attempts to focus on these items. The remaining portion of this paper directs attention to the major administrative aspects and evaluation. Due to the compact nature of this paper, only major ideas and findings are presented. The bibliography may be utilized to identify more detailed information for further study.

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402 - Price 25 cents

STOCK NUMBER 1780-0772

definition

Cooperative vocational education is an educational program developed through a cooperative arrangement between the school and employers in the community for the purpose of providing students with an opportunity to alternate in-school academic and vocational instruction with entry level employment in any occupational field. The student's total experience is planned, coordinated, and supervised by the school and the employer.

On-the-job career training and school attendance may be on alternate half-days, full days, weeks or other periods of time. Upon initial employment, employers usually pay students the statutory minimum wage.

types of programs

Seven types of cooperative vocational education programs are noted in the literature:

1) Cooperative Programs in Agricultural Occupations
2) Cooperative Programs in Business and Office Education
3) Cooperative Programs in Distributive Education
4) Cooperative Programs in Home Economics
5) Cooperative Programs in Trade and Industrial Education
6) Combination or Interrelated Cooperative Programs
7) Special Purpose Cooperative Programs

advantages

Experience in operating cooperative vocational education programs has shown the following general advantages, as noted by Evans (1969), University of Minnesota (1969), Huffman (1967), and Swenson (1969):

- Studies on the economics of vocational education show higher rates of return on investment from cooperative programs than other types of vocational education. Capital costs for the school are lower; and since the student is receiving wages for the on-the-job portion of the program, the costs for the individual are lower.
- Facilities and resources in the business community are used to supplement those provided by the school.
- If suitable training stations are available, cooperative vocational education can be offered in a specific occupational field for a small group or even an individual student.
- School-community relations can be strengthened because successful cooperative vocational education program operation depends on the community for job placement and on-the-job instruction.

- Cooperative vocational education provides relevant curriculum and instruction designed to respond to student needs and occupational requirements. The program is sensitive to occupational adjustment and career development needs by virtue of the continuous feedback from training sponsors and others.
- Cooperative vocational education stimulates desirable attitudes toward work and the dignity of work.
- Cooperative vocational education enables the student to apply vocational learnings in real-life situations.
- Cooperative vocational education provides balanced vocational preparation including manipulative and technical skills.
- Cooperative vocational education programs can be designed to prepare students with wide variances in abilities for a broad range of occupational clusters. The cooperative program often serves as an incentive for students to complete their education.
- The cooperative vocational education program introduces students to local employment opportunities; it is an effective means of developing young people as productive citizens; and it contributes to a stable work force by encouraging them to remain in the community or to return to the community after graduation.

Specific advantages for students in cooperative vocational education programs include the following:

- Students can relate education in a meaningful way to occupational interests at a period in life when it is natural to look outside the school for learning and earning opportunities.
- Students encounter an adult environment which causes them to examine their values and reappraise their potential in real occupational and social situations.
- Students have time to comprehend the significance of learning and the world of work by gaining early experience on jobs that are in harmony with their interests and abilities.
- Students make the transition from school to work, or to other educational endeavors, under the skilled guidance of the teacher-coordinator.
- The articulation of classroom instruction, on-the-job training, and student club activities contribute to competency development and confidence needed by the student.
- The teacher-coordinator's instruction is supplemented with the practices, materials, and ideas of employers and employees in the occupational environment.
- Based on personal needs and experience gained on-the-job, students can help the teacher-coordinator select appropriate course content and methods of learning for the in-school phase of vocational instruction.

- Cooperative vocational education provides an influential means of coordinating the home, the school, and the world of work in behalf of the student.

limiting factors

Cooperative vocational education program developers may encounter several factors which tend to limit successful operation. Many students could benefit from cooperative vocational education programs, but they are unable to participate because of a variety of restrictions. Some of these impediments are school-oriented, others are federal, and still others are restrictions imposed by the state educational system. There are labor union regulations and discrimination, as well as restrictions imposed by the social system.

Most potential limitations can be overcome by involving the school, parents, students, employers, and other appropriate individuals in planning the cooperative vocational education program.

Cushman (1967), Evans (1969), Griessman and Densley (1969), Huffman (1967), McCracken (1969), and Wallace (1970) cited several barriers and limitations. The following major ones are noted:

- Sometimes the number of courses required for graduation by the local school exceed the state requirements and this limits the opportunity for students to take elective vocational subjects.
- Union membership and apprenticeship requirements may reduce the types and availability of jobs in some communities. Leaders of labor unions and apprenticeship programs should be included in the planning stages and as advisory committee members to assure that the cooperative vocational education program supplements and strengthens existing programs in the community, rather than competing with them.
- A primary difficulty has been the shortage of qualified teacher-coordinators.
- Cooperative vocational education students may be laid off from their on-the-job training stations because of minor economic recessions. In such periods, the rapid response of cooperative vocational education programs to labor market demands appears as a disadvantage rather than an advantage.
- Cooperative vocational education programs may be difficult to establish in communities with a narrow range of available training stations, declining population, and high rates of employment in declining occupational endeavors.
- The tendency to exclude training which has not been a part of traditional vocational education programs may restrict opportunities in new and emerging occupational areas.

- Employers tend to expect productivity from cooperative vocational education students, while the student and the students' parents expect the on-the-job training station activity to have educational significance.
- Special difficulties are involved in the operation of cooperative programs in larger cities. Travel time for teacher-coordinators is a problem since it is rarely possible to restrict students to placement in training stations in a particular geographic sector of the city.
- Findings indicate on-the-job training programs can be too narrowly conceived unless care is exercised to insure students are moved through a planned sequence of skill development. Cooperative vocational students should have the opportunity to have meaningful jobs leading toward career-cluster mobility. An important feature of mobility is that the student-trainee should not be aimed toward a particular job for a lifetime. Mobilization should be an upward progression and horizontally conceived for the maximum benefit to the student.
- Child labor laws established by the U.S. Department of Labor, as well as state and local labor laws, will influence program planning. Exceptions to some of the laws are granted to student-learners enrolled in bona fide cooperative vocational education training programs. The latest information on child labor laws and approval procedures relating to cooperative vocational education programs should be obtained from local, state, and federal sources. Information on applicable federal laws may be obtained from the Bureau of Labor Standards, U.S. Department of Labor, Washington, D.C.

administration

Funding

The potential for acquiring federal reimbursement for cooperative vocational programs should be investigated by the school administrator.

A number of specific cooperative vocational education activities may be supported by federal and state matching funds. However, a state may elect not to provide reimbursement for certain cooperative vocational education program expenditures. Final determination of policies governing expenditures are made in relation to:

- State laws
- State plan for vocational education
- Judicious expenditure of funds
- Available funds

Consultation with the vocational education staff of the state department of education will save time in understanding the policies and provisions for cooperative vocational education program reimbursement.

In addition to federal funding and funds provided by the local school, administrators may be able to arrange for other sources of revenue for various activities. Private foundations and local civic organizations may be potential sources of funds.

If possible, school administrators should allow 9 to fifteen months to establish funding, plan, and organize the cooperative vocational education program.

Determining Type of Program

The vocational education offerings of the entire school, the geographic area, and the state-wide plan should be considered in determining the form and types of cooperative vocational education programs to offer in the local school. In addition, there are a number of manpower training programs in existence. The school administrator should be familiar with the acronyms, terms, and definitions that are unique to these programs. Cooperative vocational education program articulation and development can be enhanced if the school administrator is able to effectively communicate with people in business and industry about federally assisted manpower programs. A good reference for such information is the *Manpower Report of the President* (1970).

Other specific factors to consider include:

- Number and characteristics (backgrounds, interests, aspirations, and abilities) of students interested in learning through cooperative vocational education programs
- Number and diversity of occupational clusters which may be offered through cooperative vocational education programs
- Length of cooperative vocational education training programs in terms of the time needed for students to develop desired levels of competency
- Recommendations of the local advisory or steering committee for cooperative vocational education programs
- Number of potential training station employers, size and location of the school district, and size of the employment community
- Student access to transportation

Staffing and Supervision

The school administrator usually delegates responsibilities and an important factor in providing good cooperative vocational education is the selection of a well qualified staff for operating and supervising the program. School administrators should recognize the diversified, time consuming, and complex nature of cooperative vocational education supervision and staff in accordance with the needs of the program. The workloads and staffing patterns will depend on the forms and types of cooperative vocational education programs offered through the school system.

Since the teacher-coordinator for a cooperative vocational education program usually directs the on-the-job training and related instruction of

a group of 20 to 30 students, the desirable person for this job should be able to perform the following tasks and duties as outlined in the University of Minnesota *Guide for Cooperative Vocational Education* (1969):

Guidance and Selection of Students
- Describe program to students
- Work with school guidance personnel
- Provide occupational information
- Counsel students about entering the program
- Obtain pertinent information about students to be served
- Assist with programming and scheduling of cooperative program
- Assist enrollees with career planning

Student Placement
- Enlist support and cooperation of employers
- Select suitable training station for each student
- Acquaint employers, training station supervisors, and co-workers with the program
- Prepare students for job interviews
- Place students on the job

Student Adjustment to Work Environment
- Assist students in resolving problems encountered on the job
- Plan career development of student with the employer and student
- Evaluate student's on-the-job progress with the assistance of the employer

Improve On-The-Job Learning Environment
- Develop training plans
- Consult and assist training supervisors
- Establish responsibilities of student on the job and maintain training emphasis

Correlate Classroom Instruction With On-The-Job Training
- Determine instructional content based on student needs
- Locate, assemble, and organize instructional materials
- Teach classes
- Direct individual study and projects
- Obtain assistance from other teachers on instructing classes
- Advise training supervisors on efforts to coordinate classroom instruction with on-the-job learning experience
- Evaluate learning outcomes

Student's Personal Adjustments
- Aid students in correcting undesirable personal habits
- Counsel students with personal and socioeconomic problems
- Identify and assist students with educational problems
- Resolve behavior problems

Vocational Youth Organizations
- Advise youth group or club
- Guide students in organizing activities
- Participate in group activities

Graduate and Adult Services
- Provide guidance and placement services for graduates and adults
- Participate in planning and operating an adult education program

Administration Activities
- Assist in planning program objectives
- Assist with research and planning surveys
- Assist in organizing and working with advisory or steering committees
- Communicate school policy
- Prepare reports
- Assist in preparing budget
- Recommend purchase of equipment and supplies
- Consult with manpower agencies in the community

Public Relations
- Plan publicity program
- Construct displays and exhibits
- Prepare printed publicity
- Join and participate in professional organization meetings
- Maintain continuous communication with other faculty members, parents, community, employers, school administrators, student body, and other appropriate persons or groups

In order to successfully perform all or a majority of the required tasks, Huffman (1967, 1969) suggests the teacher-coordinator should possess most of the following qualifications:

- Be enthusiastic about cooperative vocational education programs
- Be trained in coordination techniques and have organizational abilities
- Have the ability and experience to plan thoroughly in advance and initiate necessary changes in accordance with prescribed local school policies
- Possess stamina and good health necessary to meet a rigorous schedule
- Possess an outgoing personality
- Have recent enough experience to be familiar with the latest job requirements, lines of advancement, and job competencies required for each level of advancement
- Have experience in one or two vocational fields and be able to adapt to do more than an adequate job in other vocational fields
- Have the minimum requirements for a professional teacher
- Have a record of successful teaching or comparable experience and be willing to continually improve teaching skills

Consideration should be given to other important aspects of selecting appropriate staff for cooperative vocational education programs such as:

- Artistry of the teacher (social skills, creativity, values, communication abilities)—Wallace (1970) indicates a considerable amount

of evidence is found to support the notion that the artistry of the teacher is the paramount factor in the teaching-learning situation.

- Ability of the teacher to personally relate to students—The major correlates of ability to relate to the students include a student-centered approach to teaching, insight, personal flexibility, tendencies to critical self-evaluation, willingness to assume the role of a "listener" and counselor when necessary (Kaufman, 1968).
- Flexibility and creativity—The instructor's success as a teacher depends on flexibility, creativity, personal dynamism, and willingness to expend effort and energy beyond the minimum required (Kaufman, 1968).
- Attitude—Success in approaching youth as a teacher and as a person is contingent upon the projection of a positive, accepting, and caring attitude. Any negative attitudes of the teacher are inevitably communicated to students in subtle but lethal forms. Student attitudes will reflect the esteem the teacher has for them—personally, socially, and academically (Kaufman, 1968).

Another dimension to selecting appropriate staff for cooperative vocational education programs is added by Lesh (1966) and Willet (1969). In general, they indicate:

> Nonprofessional workers can be of service to youth employment programs. It has been determined that nonprofessionals relate well with underprivileged youth. In some cases, personnel without professional training may be more effective than professionals.

Staff members for the cooperative vocational education program may be recruited from the following sources:

- Teacher training institutions
- Qualified teachers in the local school system
- Teachers in the local school system who can qualify with additional course work or occupational experience
- Persons from business or industry who qualify or can qualify with additional course work
- Military veterans who qualify or can qualify with additional course work or occupational experience
- Nonprofessionals with experience in working with youth

Advisory Committee

A local advisory committee for the cooperative vocational education program should be appointed. The local advisory committee is usually composed of 8 to twelve representatives of employers, students, employees, labor groups, educators, and other qualified citizens.

Although the advisory committee has no administrative functions, it can assist by advising the school on relevant content and procedures for operating cooperative vocational education programs. An active and interested advisory committee is very important.

Counseling and Guidance

Provisions should be made for open communication between the administrator, the guidance-counselor, and the teacher-coordinator. The school administrator should assure that students receive guidance from a well qualified counselor. The guidance counselor normally performs a highly important role in directing students into cooperative vocational education programs. There should be a written policy on the number of students that each cooperative vocational education program can effectively serve.

Equipment and Facilities

Typical cooperative vocational education programs require laboratory facilities and equipment as do regular school-based vocational education programs, with the exception of some expensive and specialized equipment which may be available in the business community training stations.

While it is possible for a new program to be successfully initiated in temporary quarters, the school will definitely want to expedite the provision of the following desirable facilities and equipment to maximize the effectiveness of the program for students:

- Classrooms designed and equipped to facilitate teaching, learning, and practice of occupationally relevant capabilities and competencies.
- Classrooms for each cooperative vocational education program with movable individual tables and chairs which can be arranged for large or small group discussions, for individual instruction, and for individual study.
- Adequate space for storing and displaying reference books, periodicals, and other occupationally related learning materials.
- A coordinator's office adjoining the classroom with outside phone service, filing cabinets, and desk to facilitate individual counsel with students and continuous, uninterrupted contact with employers.
- Model stores, offices, shops, laboratories, and other simulated work stations to provide opportunities to develop job skills, safe work habits, and confidence.
- All of the classrooms, labs, and offices for cooperative vocational education in the same general location within the school.
- Special instructional equipment and instructional media in order to provide the most positive learning environment possible.

evaluation

It is essential for the local school to engage in evaluative research activities to design, operate, and improve cooperative vocational education programs. Findings of properly structured and planned research

projects will provide a sound basis for adopting unique methods, extending programs, and adjusting expenditures.

Some of the major components to evaluate in cooperative vocational education programs include:

- General program goals
- Effectiveness of related classroom instruction
- Effectiveness of on-the-job training
- Effectiveness of youth club program activities
- Ability of the teacher-coordinator
- Follow-up studies on the effectiveness of cooperative vocational education programs as perceived by parents, student-graduates, employers, and other appropriate individuals
- Effectiveness of guidance and placement services
- Cost-benefits of the program

Routine reports required by the local school administrator may be utilized as evaluation tools during the operation of the program. Such reports might include:

- Weekly reports from students
- Periodic rating of students by on-the-job employers
- Notes from individual conferences with students, parents, and employers
- Special questionnaires for students and/or employers

Schools that do not have adequately trained research personnel should utilize the services of their state vocational education research coordinating unit (RCU) to obtain assistance in formulating evaluation tools, research plans, and in conducting research projects.

Since evaluation costs may be reimbursable, local administrators should contact the state vocational education staff for suggestions on evaluation plans.

bibliography[1]

(Boldface numbers indicate pages which cite the references)

Barnes, Donald E. *Industry and Education Study No. 2/Partnership High Schools: The Search for New Ways to Cooperate.* New York, New York: Institute for Educational Development, October, 1969. 63 pp. (ED 038 534 MF$0.65 HC$3.29)

Billings, Don. *Cooperative Occupational Education Programs—A Conference Seminar to Extend the Range of Vocational Education.* New York, New York: Division of Teacher Education, The City University of New York, December, 1970. 150 pp.

Cushman, Harold R., *et al. The Concerns and Expectations of Prospective Participants in Directed Work Experience Programs.* Ithaca, New York: State University of New York, 1967. 57 pp. (ED 019 494 MF$0.65 HC$3.29) **3**

Department of Labor. *Manpower Report of the President. A Report on Manpower Requirements, Resources, Utilization, and Training.* Washington, D.C.: U.S. Department of Labor, March, 1970. 322 pp. (ED 040 280 MF$0.65 HC Not Available From EDRS) **5**

Evans, Rupert N. "Cooperative Programs Advantages, Disadvantages & Factors in Development." *American Vocational Journal.* Vol. 44, No. 5 (May, 1969) **1, 3**

Griessman, Eugene B., and Densley, Kenneth G. *Review ad Synthesis of Research on Vocational Education in Rural Areas.* Las Cruces, New Mexico: ERIC Clearinghouse on Rural Education and Small Schools; New Mexico State University and Columbus, Ohio: ERIC Clearinghouse on Vocational and Technical Education, The Center for Vocational and Technical Education, The Ohio State University, December, 1969. 92 pp. (ED 034 632 MF$0.65 HC$3.29) **3**

Haines, Peter G., and Ozzello, Lawrence M. *How High School Cooperative Trainees Fare in the Labor Market. Phase C, A Follow-Up Study of 1964 Graduates Ten Months After Graduation.* East Lansing, Michigan: College of Education, Michigan State University; Lansing, Michigan: Michigan State Department of Public Instruction, August, 1966. 66 pp. (ED 013 919 MF$0.65 HC$3.29)

Huffman, Harry. "Cooperative Vocational Education Unique Among Learn & Work Programs." *American Vocational Journal.* Vol. 44, No. 5 (May, 1969) **1, 7**

[1] Bibliographic entries followed by an ED number in parenthesis generally are available in hard copy (photo copy) or microfiche copy through the Educational Resources Information Center (ERIC). This availability is indicated by the abbreviations, MF for microfiche and HC for hard copy. Order by ED number from the ERIC Document Reproduction Service (EDRS), Leasco Information Products Company (LIPCO), 4827 Rugby Avenue, Bethesda, Maryland 20014. Book rate or Library Rate postage is included in the prices listed. The difference between Book Rate or Library Rate and first class or foreign postage (outside the continental United States) rate will be billed at cost. There are no handling charges and payment must accompany all orders under $10.00. All orders must be in writing.

———. *Guidelines for Cooperative Education and Selected Materials From the National Seminar Held August 1-5, 1966, A Manual for the Further Development of Cooperative Education.* Columbus, Ohio: The Center for Vocational and Technical Education, The Ohio State University, 1967. 245 pp. (ED 011 044 MF$0.65 HC$9.87) **3, 7**

Kaufman, Jacob J., *et al. The Preparation of Youth for Effective Occupational Utilization, The Role of the Secondary School in the Preparation of Youth for Employment.* University Park, Pennsylvania: Pennsylvania State University, February, 1967. 448 pp. (ED 011 060 MF$0.65 HC$16.45)

———. *The School Environment and Programs for Dropouts.* University Park, Pennsylvania: Institute for Research on Human Resources, The Pennsylvania State University, August, 1968. 62 pp. (ED 028 133 MF$0.65 HC$3.29) **8**

Lesh, Seymour. *The Non-Professional Worker in Youth Employment Programs.* New York, New York: New York University, 1966. 17 pp. (ED 013 674 MF$0.65 HC$3.29) **8**

McCracken, David. *Work Experience for Broadening Occupational Offerings: A Selected Bibliography for Use in Program Development.* Columbus, Ohio: ERIC Clearinghouse on Vocational and Technical Education, The Center for Vocational and Technical Education, The Ohio State University, November, 1969. 14 pp. (ED 034 062 MF$0.65 HC$3.29) **3**

Mason, Ralph E., and Haines, Peter G. *Cooperative Occupational Education and Work Experience in the Curriculum.* Danville, Illinois: Interstate Printers and Publishers, Inc., 1965. 518 pp. Available from—Interstate Printers and Publishers, Inc., 19-27 North Jackson Street, Danville, Illinois 61832 ($6.25). (Document Not Available From EDRS)

National Advisory Council on Vocational Education. *Vocational Education Amendments of 1968. Public Law 90-576.* Washington, D.C.: National Advisory Council on Vocational Education, July 10, 1970. 12 pp. (ED 041 176 MF$0.65 HC$3.29)

Office of Education. *Implementing the Vocational Education Amendments of 1968 for the Disadvantaged or Handicapped. Suggested Utilization of Resources and Guide for Expenditures.* Washington, D.C.: Division of Vocational and Technical Education, U.S. Department of Health, Education and Welfare, February, 1970. 19 pp. (ED 043 732 MF$0.65 HC$3.29)

———. *Resource Manual 71 for the Development of Cooperative Vocational Education Programs Under the Vocational Education Amendments of 1968.* Washington, D.C.: Division of Vocational and Technical Education, U.S. Department of Health, Education and Welfare, November, 1970. 31 pp. (See June 1971 RIE)

———. *Vocational Education and Occupations (OE-80061).* Washington, D.C.: Division of Vocational and Technical Education, U.S. Department of Health, Education and Welfare and Branch of Occupational Analysis, Manpower Administration, U.S. Department of Labor, July, 1969. 296 pp. (ED 033 243 MF$0.65 HC Not Available From EDRS)

Robertson, Leonard Frank. "An Exploratory Study of the Effect of Cooperative Education in Beginning Occupations on Selected Employment Factors." Unpublished Ph.D. Dissertation. Greeley, Colorado: Colorado State College, 1965.

Schill, William John. *Concurrent Work-Education; Programs in the 50 States, 1965-66.* Washington, D.C. Bureau of Research, Office of Education, U.S. Department of Health, Education and Welfare. 118 pp. (ED 023 886 MF$0.65 HC$6.58)

Swenson, Leroy H. "Are Co-op Programs Possible in Small High Schools?" *American Vocational Journal.* Vol. 44, No. 5 (May, 1969). **1**

Tuttle, David Chester. "A Follow-Up Study of Graduates' and Employers' Opinions of a Cooperating Training Program." Unpublished Ph.D. Dissertation. Greeley, Colorado: Colorado State College, 1965.

University of Minnesota. *Guide for Cooperative Vocational Education.* Minneapolis, Minnesota: Division of Vocational and Technical Education, September, 1969. 136 pp. (ED 037 564 MF$0.65 HC$6.58) **1, 6**

———. *Notes and Working Papers from the National Conference on Cooperative Vocational Education: Implications of the 1968 Amendments (Minneapolis, Minnesota, February 26-28, 1969).* Minneapolis, Minnesota: University of Minnesota, February, 1969. 204 pp. (ED 034 888 MF$0.65 HC$9.87)

Wallace, Harold R. *Review and Synthesis of Research on Cooperative Vocational Education.* Columbus, Ohio: ERIC Clearinghouse on Vocational and Technical Education, The Center for Vocational and Technical Education, The Ohio State University, March, 1970. 124 pp. (ED 040 274 MF$0.65 HC$6.58) **3, 7**

Warmbrod, J. Robert. *Review and Synthesis of Research on the Economics of Vocational-Technical Education.* Columbus, Ohio: ERIC Clearinghouse on Vocational and Technical Education, The Center for Vocational and Technical Education, The Ohio State University, November, 1968. 62 pp. (ED 023 937 MF$0.65 HC$3.29)

Wenrich, Ralph C., and Ollenburger, Alvin. *High School Principals' Perceptions of Assistance Needed in Order to Develop More Adequate Programs for Employment-Bound Youth.* Ann Arbor, Michigan: The University of Michigan, December, 1963. 52 pp. (ED 011 282 MF$0.65 HC$3.29)

Wenrich, Ralph C., and Shaffer, Earl W. *High School Principals' Perceptions of the Roles and Responsibilities of Persons Who Would Be Charged With the Responsibility for Leadership in the Development of Occupationally Oriented Programs in High Schools.* Ann Arbor, Michigan: The University of Michigan, September, 1965. 30 pp. (ED 011 545 MF$0.65 HC$3.29)

Willet, H. I. "The School's Role in Cooperative Occupational Education" in *Notes and Working Papers from the National Conference on Cooperative Vocational Education.* Minneapolis, Minnesota: The University of Minnesota, February 26-28, 1969. **8**

☆U.S. GOVERNMENT PRINTING OFFICE: 1971 O—423–992

The Center for Vocational and Technical Education has been established as an independent unit on The Ohio State University campus with a grant from the Division of Comprehensive and Vocational Education Research, U.S. Office of Education. It serves a catalytic role in establishing consortia to focus on relevant problems in vocational and technical education. The Center is comprehensive in its commitment and responsibility, multidisciplinary in its approach and interinstitutional in its program.

The major objectives of The Center follow:

1. To provide continuing reappraisal of the role and function of vocational and technical education in our democratic society;
2. To stimulate and strengthen state, regional, and national programs of applied research and development directed toward the solution of pressing problems in vocational and technical education;
3. To encourage the development of research to improve vocational and technical education in institutions of higher education and other appropriate settings;
4. To conduct research studies directed toward the development of new knowledge and new applications of existing knowledge in vocational and technical education;
5. To upgrade vocational education leadership (state supervisors, teacher educators, research specialists, and others) through an advanced study and in-service education program;
6. TO PROVIDE A NATIONAL INFORMATION RETRIEVAL, STORAGE, AND DISSEMINATION SYSTEM FOR VOCATIONAL AND TECHNICAL EDUCATION LINKED WITH THE EDUCATIONAL RESOURCES INFORMATION CENTER LOCATED IN THE U.S. OFFICE OF EDUCATION.